

Title 9--DEPARTMENT OF MENTAL HEALTH
Division 45--Division of Mental Retardation and Developmental Disabilities
Chapter 5--Standards

9 CSR 45-5.105 Definitions for Fire Safety Rules

PURPOSE: This rule establishes definitions for the fire safety rules promulgated under this chapter.

(1) The following terms shall mean:

- (A) Alterations, changes made to the structure or floor plan of the facility by removing or adding walls and doors or adding space;
- (B) Commercial range is any range or stovetop classified as commercial by the manufacturer or larger in size than a common residential range, equipped with four (4) or more burners/elements and may be equipped with a cooking grill or griddle surface;
- (C) Dead-end is a corridor or hallway with no exit at the end that causes occupants to retrace their path to reach an exit;
- (D) Exit is the portion of a means of egress that is separated from all other areas of the building or structure by construction or equipment required to provide a protected way of travel to the exit discharge. Exits include exterior exit doors, exit passageways, horizontal exits, separated exit stairs, and separated exit ramps;
- (E) Exit access is the portion of a means of egress that leads to an exit;
- (F) Exit discharge is the portion of a means of egress between the termination of an exit and a public way;
- (G) Fire barrier is a structural element, either vertical or horizontal, such as a wall or floor assembly that is designed and constructed with a specified fire resistance rating to limit the spread of fire and restrict the movement of smoke. Such barriers may have protected openings;
- (H) Fire door is a combination of the fire door, frame, hardware and other accessories which together provide a specific degree of fire protection to the opening;
- (I) Fire resistance rating is the length of time in minutes or hours that materials or structural elements can withstand fire exposure;
- (J) Flame resistant material is the property of material or their structural elements that prevents or retards the passage of excessive heat, hot gases, or flames under the conditions in which they are used;
- (K) Flame retardant is a chemical applied to material or other substance that is designed to retard ignition or the spread of fire;
- (L) Home type range is a typical home type cooking stove;
- (M) Interior finish includes the interior wall and ceiling finish, and interior floor finish;
- (N) Level exit discharge is a horizontal plane that is located from the point at which an exit terminates and the exit discharge begins. The horizontal plane shall not vary more than two inches (2") in rise or fall;
- (O) Level is the portion of a building included between the upper surface of a floor and the ceiling above it, or any upper surface of a floor and the ceiling above it that is separated by more than five (5) steps on a stairway;
- (P) Means of egress is a continuous and unobstructed way of travel from any point in a building or structure to a public way. A means of egress consists of three (3) distinct parts: the exit access, the exit, and the exit discharge;
- (Q) Means of escape is a way out of a residential unit that does not conform to the strict definition of means of egress but does meet the intent of the definition by providing an alternative way out of a building;
- (R) Mixed occupancy is when a facility is located in the same building or structure as another occupancy. This may include a business or place of assembly;
- (S) Public way is a street, alley, or other similar parcel of land essentially open to the outside air that is deeded, dedicated, or otherwise permanently appropriated to the public for public use and having a clear width and height of not less than ten feet (10');;
- (T) Remote exit or means of egress is when two (2) exits or two (2) exit access doors are required. Each exit or exit access door shall be placed at a distance apart equal to at least one-half (1/2) the length of the maximum overall diagonal dimension of the building or area to be used;
- (U) Self-closing means to be equipped with an approved device that will ensure closing after having been opened;
- (V) Smoke barrier is a structural element, either vertical or horizontal, such as a wall, floor, or ceiling assembly that is designed and constructed to restrict the movement of smoke. A smoke barrier may or may not have a fire resistance rating; and
- (W) Supervised automatic sprinkler system is a system with the initiating devices monitored by the fire alarm control panel. This may include switches used to monitor the position of valves, a low air pressure switch, a water flow switch, and a tamper switch.

(2) In the context of rules promulgated under 9 CSR 45, the term department shall mean the Department of Mental Health (DMH).

(3) Terms not defined in this rule shall be understood as defined in the fire safety code of the National Fire Protection Association.

*AUTHORITY: section 630.655, RSMo 2000. * Original rule filed Sept. 5, 2003, effective April 30, 2004.*

**Original authority: 630.655, RSMo 1980.*

Title 9--DEPARTMENT OF MENTAL HEALTH
Division 45--Division of Mental Retardation and Developmental Disabilities
Chapter 5--Standards

9 CSR 45-5.110 Fire Safety for On-Site Day Habilitation

PURPOSE: This rule establishes fire safety requirements for on-site day habilitation funded through the Medicaid home and community-based waiver. The department delegates its authority for fire safety inspections under this rule to the Department of Public Safety, Division of Fire Safety.

(1) General Requirements.

(A) People participating in on-site day habilitation shall be restricted to using the floor of the building that is at ground level exit discharge. Exception: People participating in on-site day habilitation may use the floor below and above the level of exit discharge if the entire building is protected throughout with an approved automatic sprinkler system.

(B) No on-site day habilitation shall be located in the same building as a high hazard occupancy.

(C) The staff of the facility shall conduct at least one (1) fire drill at least once a month. In addition, a disaster drill will be conducted at least twice per year. The staff shall maintain a written record at the facility of the date, type of drill, time required to evacuate the building, whether the evacuation was completed, notation of any problems evacuating, and the number of occupants present during the drill.

(D) Unscheduled drills shall be held at the state fire marshal inspector's discretion.

(E) During severe weather, fire drills may be postponed.

(F) Each fire drill shall evacuate all persons from the building and shall be conducted as follows:

1. Drills shall simulate an actual fire condition;
2. Occupants and staff members shall not obtain clothing or personal effects after the alarm has sounded;
3. The occupants and staff members shall proceed to a predetermined point outside the building that is sufficiently remote to avoid fire danger, or to a predetermined point inside of the building to defend in place; and
4. Occupants and staff members shall remain in place until a recall is issued or until they are dismissed.

(G) No window in a facility shall have bars or any other item placed over it in a stationary manner that would impede a rescue or evacuation attempt.

(H) All flammable/combustible liquids, matches, toxic cleaning supplies, poisonous materials, medicines, or other hazardous items shall be stored so as to be inaccessible to the occupants.

(I) The building numbers shall be plainly visible from the street in case of emergency.

(J) Good housekeeping practices ensuring fire safety will be maintained daily.

(K) Stairways, walks, ramps, and porches shall be kept free of ice and snow.

(L) No fresh-cut Christmas trees shall be used unless they are treated with a flame resistant material. Documentation of the treatment shall be on file at the facility and available for review by the state fire marshal inspector.

(M) The facility shall notify the nearest fire department that the facility is in operation and have required signed documentation (fire department notification form) on file at the facility.

(N) Facilities served by a volunteer or membership fire department shall be a member in good standing with the fire department. A copy of the membership or receipt for membership shall be on file at the facility and available for review.

(O) The facility shall as soon as practical report any fire in the facility to the state fire marshal's office and the Department of Mental Health.

(P) The Division of Fire Safety may make additional requirements that provide adequate life safety protection if it is determined that the safety of the occupants is endangered. Every building or structure shall be constructed, arranged, equipped, maintained, and operated to avoid danger to the lives and safety of its occupants from fire, smoke, fumes, or resulting panic during the period of time necessary for escape from the building.

(Q) Prior to new construction, remodeling existing structures, and any structural alterations to existing facilities, the provider shall submit two (2) copies of plans and specifications prepared to scale for review and approval. One (1) copy shall be submitted to the Department of Mental Health's Licensure and Certification Unit; the second copy to the state fire marshal. The plans shall include a narrative indicating the utilization of each area of the facility. The architect or contractor shall certify in writing that the plans are in compliance with these certification rules. The provider shall not begin construction until the plans have been reviewed by the state fire marshal inspector. All plans for new construction, remodeling or additions shall comply with the Americans with Disabilities Act, Accessibility Guidelines.

(R) During the construction or remodeling process, the provider shall request a framing and wiring inspection and an inspection for the rough-in wiring for the fire alarm system by the Division of Fire Safety before the walls are enclosed. Failure to request these inspections in a timely manner may result in an unapproved fire inspection from the Division of Fire Safety.

(S) The ceiling height in all facilities shall be a minimum of seven feet six inches (7'6"). An allowance will be made by the state fire marshal inspector for some areas that are below seven feet six inches (7'6") for the installation of ductwork and plumbing.

(T) Facilities shall comply with all local building codes, fire codes and ordinances.

(U) The latest edition of the National Fire Protection Association, Chapter 101, *Life Safety Code* shall prevail in the interpretation of these rules.

(V) Each certified day program facility shall be inspected at least once annually by a state fire marshal inspector. The Department of Mental Health will initiate the fire safety inspection. If a facility is found out of compliance with the fire safety rules, the department will apply procedures for achieving compliance as promulgated under 9 CSR 45-5.060.

(2) Means of Egress Requirements.

(A) Each floor occupied in the facility shall have not less than two (2) remotely located means of egress. Each exit door shall not be less than thirty-two inches (32") wide and shall be thirty-six inches (36") wide in all new construction.

(B) In addition to the primary route, each room or occupied space shall have a second means of escape that consists of one (1) of the following:

1. A door, stairway, passage, or hall providing a way of unobstructed travel to the outside of the dwelling at street or ground level that is independent of and remotely located from the primary means of escape.

2. A passage through an adjacent non-lockable space, independent of and remotely located from the primary means of escape, to any approved means of escape.

(C) No door in the path of travel to the means of egress shall be less than thirty-two inches (32") wide in an existing facility.

(D) At no time shall the occupants of the facility exit through a bathroom, storage room, furnace room, kitchen, garage, or any other room deemed hazardous by the state fire marshal inspector.

(E) All exit doors shall swing in the direction of egress travel and have door closures attached. In smaller facilities that care for ten (10) or fewer clients, the exit doors may swing inward providing all of the clients are ambulatory. Door closures are not required in smaller facilities.

(F) Emergency lighting that has a battery backup shall be installed to light the path of egress. The location and number of emergency lights shall be determined by the state fire marshal.

(G) Lighted exit signs with a battery backup shall be installed above exit doors and as needed throughout the facility to direct the occupants to the exits.

(H) No dead bolt locks that require a key to unlock the lock from the inside shall be allowed.

(I) Overhead garage doors are not recognized as exit doorways.

(J) Mirrors shall not be placed on exit doors or adjacent to any exit in such a manner to confuse the direction of the exit. All exit doors shall be readily recognizable.

(K) All hallways shall have a clear width of at least thirty-six inches (36") wide and shall be kept free of all articles that might impede the occupants' evacuation from the home.

(L) Dead-end corridors/hallways shall not exceed twenty feet (20').

(M) All facilities that have a set of stairs or use stairs as a fire escape shall be constructed as follows:

1. All stairs shall be at least thirty-six inches (36") wide. Fire escapes shall be constructed of noncombustible materials;

2. The maximum rise shall be eight inches (8");

3. The minimum tread shall be nine inches (9");

4. The maximum height between landings shall be twelve feet (12");

5. The minimum landing size shall be forty-four inches (44");

6. Handrails shall be placed on both sides and shall be of sturdy construction and positioned thirty-four to thirty-eight inches (34"–38") above the tread;

7. The outside diameter of the handrails shall be at least one and one-fourth inches (1 1/4") and no greater than two inches (2") in size;

8. Handrails shall provide a clearance of at least one and one-half inches (1 1/2") between the handrail and the wall or upright to which it is attached; and

9. Spiral staircase or winder is not permitted.

(N) Every ramp used in the component of the means of egress shall be a minimum of forty-four inches (44") wide, and have landings at the top and bottom being the same width as the ramp. Ramp height shall comply with the following:

1. Ramps less than three inches (3") in height shall have a slope of one inch (1") per eight inches (8") of run.

2. Ramps with a height of three to six inches (3"–6") shall have a slope of one inch (1") per ten inches (10") of run.

3. Ramps with a height greater than six inches (6") shall have a slope of one inch (1") per twelve inches (12") of run.

(O) All ramps shall have a slip-resistant surface and shall be designed so that water or snow shall not accumulate on their surface.

(P) All ramps over ten inches (10") in height shall have guardrails and handrails on both sides.

(3) Windows for Emergency Rescue and Ventilation.

(A) Every room or space greater than three hundred (300) square feet used by clients shall have at least one (1) outside window for emergency rescue and ventilation. The window shall be operable from the inside without the use of tools and shall provide a clear opening of at least twenty inches (20") wide, twenty-four inches (24") in height. The total clear opening space shall be no less than 5.7 square feet in size. The bottom of the opening shall be no more than forty-four inches (44") above the floor and any latching device shall be operated easily. The clear opening shall be a rectangular solid, with a minimum width and height that provides the required 5.7 square feet opening and a minimum depth of twenty inches (20") to allow passage through the opening. The windows shall be accessible by the fire department and shall open into an area having access to a public way.

(B) Subsection (3)(A) does not apply in the following situations:

1. In buildings protected throughout by an approved, supervised automatic sprinkler system; or

2. When the room or space has a door leading directly to the outside of the building.

(4) Travel Distance to Exits.

(A) The travel distance between any room door intended as an exit access or an exit shall not exceed one hundred feet (100').

(B) The travel distance between any point in a room and an exit shall not exceed one hundred fifty feet (150').

(C) The travel distance in (A) and (B) above shall be permitted to be increased by fifty feet (50') in buildings protected throughout by a supervised automatic sprinkler system that is approved by the state fire marshal inspector, based on the National Fire Protection Association Standards for Sprinkler Systems.

(5) Protection.

(A) Any vertical openings and stairwells shall be enclosed and protected with a one (1)-hour fire barrier and self-closing device attached to the door.

(B) All furnace rooms, rooms containing water heaters, boiler rooms and storage rooms shall be separated from the remainder of the building by construction having not less than a one (1)-hour fire resistance rating. All doors to these rooms shall have a self-closing device attached and shall have a one (1)-hour fire resistive rating. The one (1)-hour rating required for these rooms or areas are not required if the facility installs an automatic sprinkler head supplied by the domestic water supply or has an approved automatic sprinkler system. A fire alarm initiating device shall be installed in the rooms or areas.

(C) On-site developmental habilitation shall be separated from other occupancies in the same building in accordance with the following:

Use Group	Fire Wall Separation in Hours
Place of assembly	2
Business	1
Mercantile	2
Institutional restrained	1
Hotels or dormitories	2

(6) Interior Finish.

(A) Interior wall and ceiling finishes throughout shall be a minimum Class B finish, as specified in the definition section of these fire safety rules. Textile material having a napped, tufted, looped, woven, non-woven, or similar surface shall not be applied to walls or ceilings. Foam plastic materials or other highly flammable or toxic materials shall not be used as an interior wall, ceiling, or floor finish.

(B) All wall studs, ceiling joists, and floor joists shall be covered with a minimum of Class B finish, and no exposed studs or joists shall be allowed.

(C) Hangings or draperies shall not be placed over exit doors or be located to conceal or obscure any exit. All other hangings and draperies shall be treated with a flame retardant material with verification to this effect on file for the state fire marshal inspector to review. An exception can be made for window valances and shall be noted by the inspector on the fire inspection survey.

(7) Detection, Alarms, Extinguishment.

(A) All on-site day habilitation programs serving fifty (50) people or less shall have smoke detectors installed on each level, in all occupied spaces, storage rooms and throughout all corridors and in all other locations as deemed necessary by the state fire marshal inspector. All smoke detectors shall be powered by the building's electrical system and have a nine (9)-volt battery backup and be interconnected. Smoke detectors shall be installed and arranged so that the activation of any smoke detector causes the operation of an alarm in all detectors that is clearly audible throughout the building, including in bathrooms, corridors, and activity rooms, and above the noise of radios, televisions, and noises of normal activity.

(B) All on-site developmental habilitation serving fifty (50) people or more shall have a full coverage electrical fire alarm system. Pull stations shall be mounted at each exit door and at least one (1) horn shall be installed in a central location on each floor. Smoke detectors shall be installed in all rooms, throughout all corridors, in all living spaces, storage rooms and offices. Additional smoke detectors may be required by the state fire marshal inspector as deemed necessary. Heat detectors shall be installed in all mechanical rooms, kitchens and throughout the attic. The battery backup control panel shall be Underwriters Laboratories, Inc. (UL) or Factory Mutual (F.M.) listed and installed on a dedicated circuit in the breaker box. The fire alarm system shall be installed and maintained in good working order.

(C) The fire alarm system shall be monitored by a monitoring company or transmitted directly to the fire department when fifty (50) or more clients are present.

(D) All facilities shall have the fire alarm system tested, inspected, and approved annually by a fire alarm company. A copy of the test report and approval of the system shall be kept on file at the facility for review by the state fire marshal inspector and the department.

(E) Occupant notification shall be provided automatically without delay. Pre-signal systems shall be prohibited.

(F) Any day program that has hearing-impaired occupants shall make adequate provisions so that the activation of any fire alarm system shall notify the occupants of the building. The state fire marshal inspector may require additional requirements for the hearing-impaired occupants to insure adequate modification.

(G) All smoke detectors that are ten (10) years old or older shall be replaced with new smoke detectors of the same style. The new smoke detectors shall have the installation date written on the side of the detector for the state fire marshal to reference. All smoke detectors that are connected to a fire alarm system shall be replaced after ten (10) years of service, or recalibrated by the smoke detector's manufacturer. If the smoke detectors are recalibrated, temporary smoke detectors shall be installed so that the fire alarm system continues working properly and providing protection to the occupants while the original smoke detectors are being serviced.

(H) Facilities using equipment or appliances, such as a gas stove or gas water heater, that pose a potential carbon monoxide risk, including facilities with attached garages, shall install a carbon monoxide detector(s). The detector(s) shall be installed according to the manufacturer's instructions. The state fire marshal may require additional carbon monoxide detectors if the state fire marshal inspector determines that the safety of the occupants is endangered.

1. Carbon monoxide detectors shall be in good operating condition. If a battery-operated detector is not operational, the facility shall install a detector that is powered by the building's electrical system with a battery backup.

2. If an elevated carbon monoxide level is detected during a fire inspection, the facility shall have all gas-fired appliances checked by a heating and air conditioning company to identify the source of the carbon monoxide. Until the facility has documentation on file at the facility verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order, and the facility is determined safe by the state fire marshal inspector, the fire inspection shall not be approved.

3. If a level of carbon monoxide is determined that endangers the lives of the occupants in care, the state fire marshal shall take measures necessary to protect the occupants. This may include evacuation of the building or closing the facility. The facility shall obtain and have on file at the facility, documentation verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order. The facility shall be reinspected by the state fire marshal inspector and determined safe before the occupants can return to the building or the facility can reopen.

(I) At least one (1) portable (five pound (5 lb)) 2A-10B:C fire extinguisher shall be required in all facilities. One (1) fire extinguisher shall be located in the kitchen. Additional fire extinguishers shall be placed throughout the facility and the travel distance shall be no greater than seventy-five feet (75') between fire extinguishers. Additional fire extinguishers may be required by the state fire marshal inspector depending on the floor plan arrangement of space and the number of levels used.

(J) Fire extinguishers shall be installed and maintained according to the instructions of the state fire marshal and shall be inspected and approved annually by a fire extinguisher company. Documentation of the inspection and approval shall be on file at the facility and available for review by the state fire marshal inspector.

(8) Heating, Ventilating, Air Conditioning, and Mechanical Equipment.

(A) Unvented fuel-fired room heaters, portable electric space heaters and floor furnaces shall not be permitted for use.

(B) No facility shall be allowed to heat the facility with a wood burning stove, fireplace, or wood burning furnace located inside of the structure.

(C) All gas and electric heating equipment shall be equipped with thermostatic controls. All hot water heaters shall have a properly sized pressure relief valve and be properly vented by galvanized flue pipe and screws at every joint in the pipe or by material recommended by the manufacturer if they are gas fired. The drip leg pipe on the pressure relief valve shall extend to approximately six inches (6") above the floor and shall be copper or chlorinated polyvinyl chloride (CPVC) and cannot be reduced in size.

(D) Facilities with a water heater over two hundred thousand British thermal units (200,000 Btus) per hour input or larger, or that is heating with a boiler, shall have a valid permit from the Division of Fire Safety posted on the premises. A copy of the permit shall be kept on file at the Division of Fire Safety.

(E) All furnace rooms shall be properly vented. Furnace flue pipes shall be constructed of galvanized pipe or material recommended by the manufacturer. All galvanized pipe shall be secured by screws at every joint in the pipe.

(F) All joints in the gas supply pipe shall be located outside of the furnace cabinet housing.

(G) Gas shutoff valve shall be located next to all gas appliances, furnaces, hot water heaters.

(H) All furnaces shall be equipped with an electrical fused switch to protect the unit from electrical overloading and to disconnect the electrical supply.

(I) If a furnace or hot water heater is located inside a garage, it shall be at least eighteen inches (18") above the finished floor and enclosed inside a fire resistant room having a fire rating of thirty (30) minutes. The door to this room shall also have a fire rating of thirty (30) minutes and have a door closure attached.

(J) All furnace rooms and rooms containing the hot water heater shall have adequate combustion air for the units. The vent size opening for the combustion air shall be measured at one (1) square inch per one thousand (1,000) Btus input if the combustion air is drawn from inside the structure and one (1) square inch per four thousand (4,000) Btus input if the air is drawn from outside of the structure. There shall be two (2) combustion air vent openings in each furnace room, one (1) located at the lower level and the other at the upper level.

(K) One (1) combustion air vent opening shall be permitted if the vent opening communicates directly to the outside of the structure. This opening shall be one (1) square inch per three thousand (3,000) Btus input of the total gas appliances located in this room. The gas appliances must have a clearance around them, of one inch (1") from the sides and back, and six inches (6") from the front of the unit.

(L) Air conditioning, heating, ventilating ductwork, and related equipment shall be installed in a safe manner and be in good operating condition as determined by the state fire marshal.

(M) All elevators shall be inspected annually by a state licensed elevator inspector and shall obtain an annual state operating permit form from the Division of Fire Safety and post it as required.

(N) If any combustibles are stored in a furnace room, they must be enclosed in a metal container.

(9) Electrical Services.

(A) Electrical wiring shall be installed and maintained in good working order. If the state fire marshal considers the wiring to be unsafe for the occupants or it is installed improperly, an inspection by a licensed electrician may be required prior to fire safety approval. The inspection by the licensed electrician shall be based on National Fire Protection Association, Chapter 70, *National Electrical Code*.

(B) No electrical extension cords will be allowed, unless approved in writing by the state fire marshal inspector.

(10) Equivalency Concepts. Nothing in this rule is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety as alternatives required by this rule. These alternatives may be used only if technical documentation to demonstrate equivalency and the system, method, or device is submitted and approved by the Missouri Division of Fire Safety.

AUTHORITY: section 630.655, RSMo 2000. Original rule filed Sept. 5, 2003, effective April 30, 2004.*

**Original authority: 630.655, RSMo 1980.*

Title 9--DEPARTMENT OF MENTAL HEALTH
Division 45--Division of Mental Retardation and Developmental Disabilities
Chapter 5--Standards

9 CSR 45-5.130 Fire Safety for Residential Habilitation for 4-9 People

PURPOSE: This rule establishes fire safety requirements for residential habilitation homes serving four to nine (4-9) people funded through the Medicaid home and community-based waiver. The department delegates its authority for fire safety inspections under this rule to the Department of Public Safety, Division of Fire Safety.

(1) General Requirements.

(A) The staff shall conduct at least one (1) fire drill and one (1) disaster/weather drill per quarter, with a minimum of one (1) fire and one (1) disaster/weather drill per year conducted while the residents are sleeping. A drill must be conducted within one (1) week of the arrival of a new resident. The staff shall maintain a written record at the facility of the date, type of drill, time required to evacuate the building, whether the evacuation was completed, notation of any problems evacuating, and number of occupants present during the drill.

(B) Unscheduled drills shall be held at the state fire marshal inspector's discretion.

(C) During severe weather, fire drills may be postponed.

(D) Each fire drill shall evacuate all persons from the building, or evacuate to an area of refuge and defend in place. Each fire drill shall be conducted as follows:

1. Drills shall simulate an actual fire condition;

2. Occupants and staff members shall not obtain clothing or personal effects after the alarm has sounded;

3. The occupants and staff members shall proceed to a predetermined point outside the building that is sufficiently remote to avoid fire danger, or in case of disaster/weather drill to a predetermined point inside of the building; and

4. Occupants and staff members shall remain in place until a recall is issued or until they are dismissed.

5. Exception. If there is potential harm to residents during drills because a resident is medically fragile, the provider may arrange the drill to not involve the medically fragile. However, all residents who are medically fragile must participate in a drill at least once per year. This must be documented in the home.

(E) No window in a facility shall have bars or any other item placed over them in a stationary manner that would impede a rescue or evacuation.

(F) All flammable/combustible liquids, matches, toxic cleaning supplies, poisonous materials, or other hazardous items shall be stored so as to be inaccessible to the occupants if the occupants cannot handle the materials safely. If there are firearms and/or ammunition on the premises, they shall be kept in a locked space and residents shall not have access.

(G) Clothes dryers shall be vented and maintained properly.

(H) The house numbers shall be plainly visible from the street in case of emergency.

(I) Good housekeeping practices ensuring fire safety will be maintained daily.

(J) Stairways, walks, ramps, and porches shall be kept free of ice and snow.

(K) No fresh-cut Christmas trees shall be used unless they are treated with a flame resistant material. Documentation of the treatment shall be on file at the facility and available for review by the state fire marshal inspector.

(L) Candles and other devices that have an open flame shall not be used indoors. However, short-term supervised use of candles for special occasions or dinners is permitted.

(M) The facility shall notify the nearest fire department that the facility is in operation and have required signed documentation (fire department notification form) on file at the facility.

(N) Facilities served by a volunteer or membership fire department shall be a member in good standing with the fire department. A copy of the membership or receipt for membership shall be on file at the facility and available for review.

(O) The facility shall as soon as practical report any fire in the facility to the state fire marshal's office and the Department of Mental Health.

(P) The Division of Fire Safety may make additional requirements that provide adequate life safety protection if it is determined that the safety of the occupants is endangered. Every building or structure shall be constructed, arranged, equipped, maintained, and operated to avoid danger to the lives and safety of its occupants from fire, smoke, fumes, or resulting panic during the period of time necessary for escape from the building.

(Q) Prior to new construction, remodeling existing structures, and any structural alterations to existing facilities, the provider shall submit two (2) copies of plans and specifications prepared to scale for review and approval. One (1) copy shall be submitted to the Department of Mental Health's Licensure and Certification Unit, the second copy to the state fire marshal. The plans shall include a narrative indicating the utilization of each area of the facility. The architect or contractor shall certify in writing that the plans are in compliance with these certification rules. The provider shall not begin construction until the plans have been reviewed by the state fire marshal inspector. All plans for new construction, remodeling or additions shall comply with the Americans with Disabilities Act, Accessibility Guidelines.

(R) During the construction or remodeling process, the provider shall request a framing and wiring inspection and an inspection for the rough-in wiring for the fire alarm system by the Division of Fire Safety before the walls are enclosed. Failure to have these inspections constitutes cause for disapproval by the Division of Fire Safety.

(S) Facilities that were certified and areas approved for care prior to the effective date of this rule shall have ceilings at least seven feet (7') in height. Facilities initially certified and areas initially approved for care on or after the effective date of this rule shall meet all the requirements of this rule and shall have ceilings at least seven feet, six inches (7'6") in height. If structural alterations are made in facilities certified prior to the effective date of this rule, those facilities shall meet all the requirements of this rule and shall have ceilings at least seven feet, six inches (7'6") in height in the altered space. Allowance will be made by the state fire marshal inspector for the installation of ductwork and plumbing. No more than forty percent (40%) of the ceiling in each room shall be below minimal height.

(T) Facilities shall comply with all local building codes, fire codes and ordinances.

(U) The latest edition of the National Fire Protection Association, Chapter 101, *Life Safety Code* shall prevail in the interpretation of these rules.

(V) Each certified residential facility shall be inspected at least once annually by a state fire marshal inspector. The Department of Mental Health will initiate the fire safety inspection. If a facility is found out of compliance with the fire safety rules, the department will apply procedures for achieving compliance as promulgated under 9 CSR 45-5.060.

(2) Means of Egress Requirements.

(A) Each floor occupied in the home shall have not less than two (2) remotely located means of egress. Required means of egress shall not be a window. Each exit door shall not be less than thirty inches (30") wide, except that newly constructed doorways shall be at least thirty-six inches (36") wide.

(B) Wheelchairs, walkers, and other support equipment shall not be stored in corridors.

(C) No door in the path of travel to the means of egress shall be less than thirty inches (30") wide. Except that newly constructed doorways shall be at least thirty-six inches (36").

(D) No primary means of escape or planned exit shall lead through a bathroom, storage room, furnace room, garage, or any other room deemed hazardous by the fire inspector. Exception: Kitchens shall not be considered hazardous unless they have commercial stoves without extinguishing equipment or other features that lend themselves to rapid fire development.

(E) All required outside exit doors shall swing in the direction of egress travel if there are more than six (6) residents living in the home and one (1) or more person(s) is nonambulatory. In other words, if there are six (6) residents or less and all are ambulatory, the required exit doors do NOT have to swing in the direction of egress travel.

(F) Emergency lighting that has a battery backup shall be installed to light the path of egress. The state fire marshal inspector shall determine the location and number of emergency lights.

(G) No dead bolt locks that require a key to unlock the lock from the inside shall be allowed.

(H) Overhead garage doors are not recognized as exit doorways.

(I) Mirrors shall not be placed on exit doors or adjacent to any exit in such a manner to confuse the direction of the exit. All exit doors shall be readily recognizable.

(J) All hallways shall have a clear width of at least thirty-six inches (36") wide and shall be kept free of all articles that might impede the occupants' evacuation from the home.

(K) Dead-end corridors/hallways shall not exceed twenty feet (20').

(L) Facilities initially certified and areas initially approved on or after the effective date of this rule, shall meet the following requirements. All facilities that have a set of stairs or use stairs as a fire escape shall be constructed as follows:

1. All stairs shall be at least thirty-six inches (36") wide. New fire escapes shall be constructed of noncombustible materials. Existing fire escapes shall be of sturdy construction and, at the discretion of the fire marshal, may be required to be load tested.

2. The maximum rise shall be eight inches (8").

3. The minimum tread shall be nine inches (9").

4. The maximum height between landings shall be twelve feet (12').

5. The minimum landing size shall be forty-four inches by forty-four inches (44" x 44").

6. Handrails shall be placed on both sides and shall be of sturdy construction and positioned thirty-four to thirty-eight inches (34"-38") above the tread.

7. The outside diameter of the handrails shall be at least one and one-fourth inches (1 1/4") and no greater than two inches (2") in size.

8. Handrails shall provide a clearance of at least one and one-half inches (1 1/2") between the handrail and the wall or upright to which it is attached.

9. Spiral staircases or winders are not permitted.

(M) Every ramp used in the component of the means of egress shall be a minimum of forty-four inches (44") wide, and have landings at the top and bottom being the same width as the ramp. Ramp height shall comply with the following:

1. Ramps less than three inches (3") in height shall have a slope of one inch (1") per eight inches (8") of run.

2. Ramps with a height of three to six inches (3"-6") shall have a slope of one inch (1") per ten inches (10") of run.

3. Ramps with a height greater than six inches (6") shall have a slope of one inch (1") per twelve inches (12") of run.

(N) All ramps shall have a slip-resistant surface and shall be designed so that water or snow shall not accumulate on their surface.

(O) All ramps over ten inches (10") in height shall have guardrails and handrails on both sides.

(3) Travel Distance to Exits.

(A) The travel distance between any room door intended as an exit access and an exit shall not exceed one hundred feet (100').

(B) The travel distance between any point in a room and an exit shall not exceed one hundred fifty feet (150').

(C) The travel distance between any point in a sleeping room and an exit access door in that room shall not exceed fifty feet (50'). Exception: The travel distance in (A) and (B) of this subsection shall be permitted to be increased by fifty feet (50') in buildings protected throughout by a supervised automatic sprinkler system that is approved by the state fire marshal inspector, based on the National Fire Protection Association, Standards for Sprinkler Systems.

(4) Protection.

(A) Vertical openings shall be protected so that no primary means of escape is exposed to an unprotected vertical opening. The vertical opening shall be considered protected if the opening is cut off and enclosed in a manner that provides a fire-resisting capability of not less than twenty (20) minutes and resists the passage of smoke. All doors or openings shall have fire- and smoke-resisting capability equivalent to that of the enclosure and shall be self-closing or automatic closing.

(B) Exception. Specific residential facilities that were certified prior to the effective date of this rule without twenty (20)-minute fire barriers in interior stairways as required by subsection (4)(A) shall be considered in compliance with current requirements, unless renovations or significant changes have occurred in the way the building is being used or the number of residents are increased.

(C) All furnace rooms, rooms containing water heaters, boiler rooms, storage rooms, laundry rooms and all other rooms or areas deemed hazardous by the state fire marshal inspector shall be separated from the remainder of the building by a construction having not less than a twenty (20)-minute fire resistance rating. Doors to these rooms must be closed at all times. Doors to these rooms shall also have a twenty (20)-minute fire rating or be a minimum of one and three-fourths inches (1 3/4") thick solid core. The door(s) shall also have door closure(s) attached.

(D) Exception. The twenty (20)-minute fire resistance rating required for rooms or areas listed in subsection (4)(C) of this rule is not required if the facility installs a sprinkler head off the domestic water supply or has an approved automatic sprinkler system and a fire alarm initiating device shall be installed in the high hazard area.

(E) Every unoccupied attic space shall be subdivided by draft stops having a one (1)-hour fire rating, into areas not to exceed three thousand (3,000) square feet. Exception: Subdivisions described in this subsection are not required if the space is protected throughout by an approved, automatic sprinkler system.

(5) Interior Finish.

(A) Interior wall and ceiling finishes throughout shall be a minimum Class B finish, as specified in the definition section of these fire safety rules. Textile material having a napped, tufted, looped, woven, non-woven, or similar surface shall not be applied to walls or ceilings. Foam plastic materials or other highly flammable or toxic materials shall not be used as an interior wall, ceiling, or floor finish.

(B) All wall studs, ceiling joists, and floor joists shall be covered with a minimum of Class B finish, and no exposed studs or joists shall be allowed.

(C) Hangings or draperies shall not be placed over exit doors or be located to conceal or obscure any exit. All other hangings and draperies shall be treated with a flame retardant material with verification to this effect on file for the fire inspector to review. Exception shall be made for small window valances. These exceptions shall be noted on the fire inspection survey.

(6) Detection, Alarms, Extinguishment.

(A) Smoke detectors shall be installed in all sleeping rooms, throughout all corridors, in all living spaces, storage rooms, offices, and any other areas that are deemed necessary by the state fire marshal inspector. Smoke detectors shall be in good operating condition and functional at all times. Smoke detectors may be battery powered. However, if smoke detectors are not operational during two (2) separate inspections, the facility will be required to install smoke detectors that are powered by the home's electrical system and have a nine (9)-volt battery backup. These detectors shall be interconnected so that the activation of one (1) detector will cause an alarm in all detectors. Smoke detectors that are not operational must be documented on inspection surveys.

(B) All smoke detectors that are ten (10) years old or older shall be replaced with new smoke detectors of the same style. The new smoke detectors shall have the installation date written on the side of the detector for the state fire marshal inspector to reference.

(C) All smoke detectors that are connected to a fire alarm system shall be replaced after ten (10) years of service, or recalibrated by the smoke detector's manufacturer. If the smoke detectors are recalibrated, temporary smoke detectors shall be installed so that the fire alarm system continues working properly and providing protection to the occupants while the original smoke detectors are being serviced.

(D) Any residence that has hearing-impaired occupants shall make adequate provisions so that the activation of any fire alarm system shall notify the occupants of the home. The state fire marshal inspector may require additional requirements for the hearing-impaired occupants to insure adequate notification.

(E) Occupant notification shall be provided automatically without delay. Pre-signal systems shall be prohibited.

(F) All homes with fire alarm systems shall have the fire alarm system tested, inspected, and approved annually by a fire alarm company. A copy of the test report and approval of the system shall be kept on file at the residence for review by the state fire marshal inspector.

(G) Residences using equipment or appliances, such as a gas stove or gas water heater, that pose a potential carbon monoxide risk, including facilities with attached garages, shall install a carbon monoxide detector(s). The detector(s) shall be installed according to the manufacturer's instructions. The state fire marshal inspector may require additional carbon monoxide detectors if the state fire marshal inspector determines that the safety of the occupants is endangered.

1. Carbon monoxide detectors shall be in good operating condition. If a battery operated detector is not operational, the facility shall install a detector that is powered by the home's electrical system with a battery backup.

2. If an elevated carbon monoxide level is detected during a fire inspection, the residence shall have all gas-fired appliances checked by a heating and air conditioning company to identify the source of the carbon monoxide. Until the residence has documentation on file at the home verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order, and the facility is determined safe by the state fire marshal, the fire inspection shall not be approved.

3. If a level of carbon monoxide is determined that endangers the lives of the occupants, the state fire marshal inspector shall take measures necessary to protect the occupants. This may include evacuation of the home or closing the residence. The residence shall obtain and have on file at the home, documentation verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order. The residence shall be reinspected by the state fire marshal inspector and determined safe before the occupants can return to the home or the residence can reopen.

(H) At least one (1) portable (five pound (5 lb)) 2A-10B:C fire extinguisher shall be required in all homes. One (1) fire extinguisher shall be located in the kitchen. Additional fire extinguishers shall be placed throughout the home and the travel distance shall be no greater than seventy-five feet (75') between fire extinguishers. Additional fire extinguishers may be required by the state fire marshal depending on the floor plan arrangement of space and the number of levels used.

(I) Fire extinguishers shall be installed and maintained according to the instructions of the state fire marshal and shall be inspected and approved annually by a fire extinguisher company. Documentation of the inspection and approval shall be on file at the facility and available for review by the state fire marshal inspector.

(J) Homes initially obtaining certification and areas initially certified on or after the effective date of this rule shall meet the following requirements of subsections (6)(J) and (6)(K) of this rule. Homes using a commercial stove, deep fryer, or two (2) home type ranges placed side by side, shall be equipped with a range hood and extinguishing system with an automatic cutoff of the fuel supply and exhaust system in case of fire. The state fire marshal inspector shall inspect these systems to insure they are in good working condition and installed/maintained correctly. The state fire marshal inspector shall base this inspection on National Fire Protection Association, Chapter 96, Standard for Fire Protection of Commercial Cooking Operations. Exceptions: 1) Home type ranges separated by an eighteen inch (18") cabinet shall not be required to have an extinguishing system installed above them. 2) Facilities that cook on a home type range with no more than four (4) burners and/or grill, does not need to install a fire extinguishing system above the range.

(K) The range hood fire extinguishment system shall be connected to the control panel of the fire alarm system. The activation of the range hood fire extinguishment system shall cause the fire alarm system to activate throughout the building.

(7) Heating, Ventilating, Air Conditioning, and Mechanical Equipment.

(A) Unvented fuel-fired room heaters, portable electric space heaters and floor furnaces shall not be permitted for use.

(B) No facility shall be allowed to heat the home with a wood burning stove, fireplace, or wood burning furnace located inside of the structure as a primary source of heat. Fireplaces need to be approved for use by the state fire marshal inspector.

(C) All gas and electric heating equipment shall be equipped with thermostatic controls. All hot water heaters shall have a properly sized pressure relief valve and properly vented by galvanized flue pipe and screws at every joint in the pipe or by material recommended by the manufacturer if they are gas fired. The drip leg pipe on the pressure relief valve shall extend to approximately six inches (6") above the floor and shall be copper or chlorinated polyvinyl chloride (CPVC) and cannot be reduced in size.

(D) Facilities with a water heater over two hundred thousand British thermal units (200,000 Btus) per hour input or larger, or that are heating with a boiler, shall have a valid permit from the Division of Fire Safety posted on the premises. A copy of the permit shall be kept on file at the Division of Fire Safety.

(E) All furnace rooms shall be properly vented. Furnace flue pipes shall be constructed of galvanized pipe or material recommended by the manufacturer. All galvanized pipe shall be secured by screws at every joint in the pipe.

(F) All joints in the gas supply pipe shall be located outside of the furnace cabinet housing.

(G) A gas shutoff valve shall be located next to all gas appliances, furnaces, and hot water heaters.

(H) All furnaces shall be equipped with an electrical fused switch to protect the unit from electrical overloading and to disconnect the electrical supply.

(I) If a furnace or hot water heater is located inside a garage, it shall be at least eighteen inches (18") above the finished floor and enclosed inside a fire resistant room having a fire rating of thirty (30) minutes. The door to this room shall also have a minimum thirty (30)-minute fire rating and have a door closure attached.

(J) All furnace rooms and rooms containing the hot water heater shall have adequate combustion air for the units. The vent size opening for the combustion air shall be measured at one (1) square inch per one thousand (1,000) Btus input if the combustion air is drawn from inside the structure and one (1) square inch per four thousand (4,000) Btus input if the air is drawn from outside of the structure. There shall be two (2) combustion air vent openings in each furnace room, one (1) located at the lower level and the other at the upper level.

(K) One (1) combustion air vent opening shall be permitted if the vent opening communicates directly to the outside of the structure. This opening shall be one (1) square inch per three thousand (3,000) Btus input of the total gas appliances located in this room. The gas appliances must have a clearance around them, of one inch (1") from the sides and back, and six inches (6") from the front of the unit.

(L) Air conditioning, heating, ventilating ductwork, and related equipment shall be installed in a safe manner and be in good operating condition as determined by the state fire marshal inspector.

(M) Any furnace or air handling equipment that has airflow of two thousand (2,000) cubic feet per minute or more, shall have a fan shutdown switch that is interconnected with the fire alarm system.

(N) All elevators shall be inspected annually by a state licensed elevator inspector and shall obtain an annual state operating permit form from the Division of Fire Safety and post it as required.

(O) If any combustibles are stored in a furnace room, they must be enclosed in a metal container.

(8) Electrical Services.

(A) Electrical wiring shall be installed and maintained in good working order. If the state fire marshal considers the wiring to be unsafe for the occupants or it is installed improperly, an inspection by a licensed electrician may be required prior to fire safety approval. The inspection by the licensed electrician shall be based on National Fire Protection Association, Chapter 70, *National Electrical Code*.

(B) No electrical extension cords will be allowed, unless approved in writing by the state fire marshal inspector. Extension cords shall not be permanently affixed to the structure or replace permanent wiring. Exception: The use of Underwriters Laboratories, Inc. (UL) approved fused power surge strips is acceptable.

(9) Equivalency Concepts. Nothing in this rule is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety as alternatives required by this rule. These alternatives may be used only if technical documentation to demonstrate equivalency and the system, method, or device is submitted and approved by the Missouri Division of Fire Safety.

AUTHORITY: section 630.655, RSMo 2000. Original rule filed Sept. 5, 2003, effective April 30, 2004.*

**Original authority: 630.655, RSMo 1980.*

Title 9--DEPARTMENT OF MENTAL HEALTH
Division 45--Division of Mental Retardation and Developmental Disabilities
Chapter 5--Standards

9 CSR 45-5.140 Fire Safety for Residential Habilitation for 10–16 People

PURPOSE: This rule establishes fire safety requirements for residential habilitation homes serving ten to sixteen (10–16) people funded through the Medicaid home and community-based waiver. The department delegates its authority for fire safety inspections under this rule to the Department of Public Safety, Division of Fire Safety.

(1) General Requirements.

(A) The staff shall conduct at least one (1) fire drill and disaster drill at least once a month, with a minimum of two (2) drills conducted annually while the residents are sleeping. The staff shall maintain a written record at the facility of the date, type of drill, time required to evacuate the building whether the evacuation was completed, notation of any problems evacuating, and number of occupants present during the drill.

(B) Unscheduled drills shall be held at the state fire marshal inspector's discretion.

(C) During severe weather, fire drills may be postponed.

(D) Each fire drill shall evacuate all persons from the building, or evacuate to an area of refuge and defend in place. Each fire drill shall be conducted as follows:

1. Drills shall simulate an actual fire condition;

2. Occupants and staff members shall not obtain clothing or personal effects after the alarm has sounded;

3. The occupants and staff members shall proceed to a predetermined point outside the building that is sufficiently remote to avoid fire danger, or to a predetermined point inside of the building;

4. Occupants and staff members shall remain in place until a recall is issued or until they are dismissed; and

5. Exception. If there is potential harm to residents during drills because a resident is medically fragile, the provider may arrange the drill to not involve the medically fragile. However, all residents who are medically fragile must participate in a drill at least once per year. This must be documented in the home.

(E) No window in a facility shall have bars or any other item placed over them in a stationary manner that would impede a rescue or evacuation.

(F) All flammable/combustible liquids, matches, toxic cleaning supplies, poisonous materials, or other hazardous items shall be stored so as to be inaccessible to the occupants if the occupants cannot handle the materials safely. No firearms and/or ammunition are allowed on the premises.

(G) Clothes dryers shall be vented and maintained properly.

(H) The house numbers shall be plainly visible from the street in case of emergency.

(I) Good housekeeping practices ensuring fire safety will be maintained daily.

(J) Stairways, walks, ramps, and porches shall be kept free of ice and snow.

(K) No fresh-cut Christmas trees shall be used unless they are treated with a flame resistant material. Documentation of the treatment shall be on file at the facility and available for review by the state fire marshal.

(L) Candles and other devices that have an open flame shall not be used indoors. However, short-term supervised use of candles for special occasions or dinners is permitted.

(M) The facility shall notify the nearest fire department that the facility is in operation and have required signed documentation (fire department notification form) on file at the facility.

(N) Facilities served by a volunteer or membership fire department shall be a member in good standing with the fire department. A copy of the membership or receipt for membership shall be on file at the facility and available for review.

(O) The facility shall as soon as practical report any fire in the facility to the state fire marshal's office and the Department of Mental Health.

(P) The Division of Fire Safety may make additional requirements that provide adequate life safety protection if it is determined that the safety of the occupants is endangered. Every building or structure shall be constructed, arranged, equipped, maintained, and operated to avoid danger to the lives and safety of its occupants from fire, smoke, fumes, or resulting panic during the period of time necessary for escape from the building.

(Q) Prior to new construction, remodeling existing structures, and any structural alterations to existing facilities, the provider shall submit two (2) copies of plans and specifications prepared to scale for review and approval. One (1) copy shall be submitted to the Department of Mental Health's Licensure and Certification Unit; the second copy to the state fire marshal. The plans shall include a narrative indicating the utilization of each area of the facility. The architect or contractor shall certify in writing that the plans are in compliance with these certification rules. The provider shall not begin construction until the plans have been reviewed by the state fire marshal inspector. All plans for new construction, remodeling or additions shall comply with the Americans with Disabilities Act, Accessibility Guidelines.

(R) During the construction or remodeling process, the provider shall request a framing and wiring inspection and an inspection for the rough-in wiring for the fire alarm system by the Division of Fire Safety before the walls are enclosed. Failure to request these inspections in a timely manner may result in an unapproved fire inspection from the Division of Fire Safety.

(S) The ceiling height in all facilities shall be a minimum of seven feet six inches (7'6"). An allowance will be made by the state fire marshal for some areas that are below seven feet six inches (7'6") for the installation of ductwork and plumbing. No more than forty percent (40%) of the ceiling in each room shall be below minimal height.

(T) Facilities shall comply with all local building codes, fire codes and ordinances.

(U) The latest edition of the National Fire Protection Association, Chapter 101, *Life Safety Code* shall prevail in the interpretation of these rules.

(V) Each certified residential facility shall be inspected at least once annually by a state fire marshal inspector. The department will initiate the fire safety inspection. If a facility is found out of compliance with the fire safety rules, the department will apply procedures for achieving compliance as promulgated under 9 CSR 45-5.060.

(2) Means of Egress Requirements.

(A) Each floor occupied in the home shall have not less than two (2) remotely located means of egress. Required means of egress shall not be a window. Each exit door shall not be less than thirty inches (30") wide, except that newly constructed doorways shall be at least thirty-six inches (36").

(B) Wheelchair, walkers and other support equipment shall not be stored in corridors.

(C) No door in the path of travel to the means of egress shall be less than thirty inches (30") wide. Except that newly constructed doorways shall be at least thirty-six inches (36").

(D) No primary means of escape shall lead through a bathroom, storage room, furnace room, kitchen, garage, or any other room deemed hazardous by the fire marshal.

(E) All exit doors shall swing in the direction of egress travel and shall have door closures attached.

(F) Emergency lighting that has a battery backup shall be installed to light the path of egress. The location and number of emergency lights shall be determined by the state fire marshal inspector.

(G) Lighted exit signs with a battery backup shall be installed above exit door and as needed throughout the facility to direct the occupants to the exits.

(H) No dead bolt locks that require a key to unlock the lock from the inside shall be allowed.

(I) Overhead garage doors are not recognized as exit doorways.

(J) Mirrors shall not be placed on exit doors or adjacent to any exit in such a manner to confuse the direction of the exit. All exit doors shall be readily recognizable.

(K) All hallways shall have a clear width of at least thirty-six inches (36") wide and shall be kept free of all articles that might impede the occupants' evacuation from the home.

(L) Dead-end corridors/hallways shall not exceed twenty feet (20').

(M) Each wing or corridor of the facility shall be separated into fire compartment areas by fire doors and walls, having not less than a one (1) hour rating. All fire doors shall be equipped with a door closure and may be held open at all times with an electrical magnetic switch that is interconnected to the fire alarm system.

(N) Facilities initially certified and areas initially approved on or after the effective date of this rule, shall meet the following requirements. All facilities that have a set of stairs or use stairs as a fire escape shall be constructed as follows:

1. All stairs shall be at least thirty-six inches (36") wide. Fire escapes shall be constructed of noncombustible materials. Existing fire escapes shall be of sturdy construction and, at the discretion of the fire marshal, may be required to be load tested.

2. The maximum rise shall be eight inches (8").

3. The minimum tread shall be nine inches (9").

4. The maximum height between landings shall be twelve feet (12').

5. The minimum landing size shall be forty-four inches (44").

6. Handrails shall be placed on both sides and shall be of sturdy construction and positioned thirty-four to thirty-eight inches (34"–38") above the tread.

7. The outside diameter of the handrails shall be at least one and one-fourth inches (1 1/4") and no greater than two inches (2") in size.

8. Handrails shall provide a clearance of at least one and one-half inches (1 1/2") between the handrail and the wall or upright to which it is attached.

9. Spiral staircase or winder is not permitted.

(O) Every ramp used in the component of the means of egress shall be a minimum of forty-four inches (44") wide, and have landings at the top and bottom being the same width as the ramp. Ramp height shall comply with the following:

1. Ramps less than three inches (3") in height shall have a slope of one inch (1") per eight inches (8") of run.

2. Ramps with a height of three to six inches (3"–6") shall have a slope of one inch (1") per ten inches (10") of run.

3. Ramps with a height greater than six inches (6") shall have a slope of one inch (1") per twelve inches (12") of run.

(P) All ramps shall have a slip-resistant surface and shall be designed so that water or snow shall not accumulate on their surface.

(Q) All ramps over ten inches (10") in height shall have guardrails and handrails on both sides.

(3) Travel Distance to Exits.

(A) The travel distance between any room door intended as an exit access and an exit shall not exceed one hundred feet (100').

(B) The travel distance between any point in a room and an exit shall not exceed one hundred fifty feet (150').

(C) The travel distance between any point in a sleeping room and an exit access door in that room shall not exceed fifty feet (50'). Exception: The travel distance in (A) and (B) of this section shall be permitted to be increased by fifty feet (50') in buildings protected throughout by a supervised automatic sprinkler system that is approved by the fire marshal, based on the National Fire Protection Association, Standards for Sprinkler Systems.

(4) Protection.

(A) Vertical openings shall be protected so that no primary means of escape is exposed to an unprotected vertical opening. The vertical opening shall be considered protected if the opening is cut off and enclosed in a manner that provides a fire-resisting capability of not less than twenty (20) minutes and resists the passage of smoke. Any doors or openings shall have fire- and smoke-resisting capability equivalent to that of the enclosure and shall be self-closing or automatic closing.

(B) Interior stairways shall be closed with one (1)-hour-fire barriers, with all openings equipped with smoke actuated automatic-closing or self-closing doors having a fire resistance comparable to that required for the enclosure.

(C) All furnace rooms, rooms containing water heaters, boiler rooms, storage rooms, laundry rooms and all other rooms or areas deemed hazardous by the state fire marshal inspector shall be separated from the remainder of the building by construction having not less than a one (1)-hour fire-resistance rating. All doors to these rooms shall have a self-closing device attached and shall have a minimum one (1)-hour fire rating.

(D) Exception. The one (1)-hour fire resistance rating required for rooms or areas listed in subsection (4)(C) of this rule is not required if the facility installs a sprinkler head off the domestic water supply or has an approved automatic sprinkler system and a fire alarm initiating device shall be installed in the high hazard area.

(E) Every unoccupied attic space shall be subdivided by draft stops having a one (1)-hour fire rating, into areas not to exceed three thousand (3,000) square feet. Exception: Subdivisions described in this subsection are not required if the space is protected throughout by an approved, automatic sprinkler system.

(F) All doors to sleeping rooms shall have a fire resistance rating of twenty (20) minutes.

(5) Interior Finish.

(A) Interior wall and ceiling finishes throughout shall be a minimum Class B finish, as specified in the definition section of these fire safety rules. Textile material having a napped, tufted, looped, woven, non-woven, or similar surface shall not be applied to walls or ceilings. Foam plastic materials or other highly flammable or toxic materials shall not be used as an interior wall, ceiling, or floor finish.

(B) All wall studs, ceiling joists, and floor joists shall be covered with a minimum of Class B finish, and no exposed studs or joists shall be allowed.

(C) Hangings or draperies shall not be placed over exit doors or be located to conceal or obscure any exit. All other hangings and draperies shall be treated with a flame retardant material with verification to this effect on file for the state fire marshal to review. Exception shall be made for small window valances. These exceptions shall be noted on the fire inspection survey.

(6) Detection, Alarms, Extinguishment.

(A) All facilities shall have a full coverage electrical fire alarm system. Pull stations shall be mounted at each exit door and at least one (1) horn/strobe shall be installed in a central location on each floor. Smoke detectors shall be installed in all sleeping rooms, throughout all corridors, in all living spaces, storage rooms and offices. Additional smoke detectors may be required by the state fire marshal inspector as deemed necessary. Heat detectors shall be installed in all mechanical rooms, kitchens and throughout the attic. The battery backup control panel shall be Underwriters Laboratory (UL) or Factory Mutual (F.M.) listed and installed on a dedicated circuit breaker box. The fire alarm system shall be installed and maintained in good working order and shall be UL or F.M. listed. The fire alarm system shall be installed and maintained per the National Fire Alarm Code (NFPA 72) and the *National Electrical Code*.

(B) All smoke detectors that are ten (10) years old or older shall be replaced with new smoke detectors of the same style. The new smoke detectors shall have the installation date written on the side of the detector for the state fire marshal to reference.

(C) All smoke detectors that are connected to a fire alarm system shall be replaced after ten (10) years of service, or recalibrated by the smoke detector's manufacturer. If the smoke detectors are recalibrated, temporary smoke detectors shall be installed so that the fire alarm system continues working properly and providing protection to the occupants while the original smoke detectors are being serviced.

(D) Any residence that has hearing-impaired occupants shall make adequate provisions so that the activation of any fire alarm system shall notify the occupants of the home. The state fire marshal may require additional requirements for the hearing-impaired occupants to insure adequate notification.

(E) Occupant notification shall be provided automatically without delay. Pre-signal systems shall be prohibited.

(F) All facilities shall have the fire alarm system tested, inspected, and approved annually by a fire alarm company. A copy of the test report and approval of the system shall be kept on file at the facility for review by the state fire marshal.

(G) Facilities using equipment or appliances, such as a gas stove or gas water heater, that pose a potential carbon monoxide risk, including facilities with attached garages, shall install a carbon monoxide detector(s). The detector(s) shall be installed according to the manufacturer's instructions. The state fire marshal inspector may require additional carbon monoxide detectors if the state fire marshal inspector determines that the safety of the occupants is endangered.

1. Carbon monoxide detectors shall be in good operating condition. If a battery-operated detector is not operational, the facility shall install a detector that is powered by the home's electrical system with a battery backup.

2. If an elevated carbon monoxide level is detected during a fire inspection, the facility shall have all gas-fired appliances checked by a heating and air conditioning company to identify the source of the carbon monoxide. Until the facility has documentation on file at the home verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order, and the facility is determined safe by the state fire marshal, the fire inspection shall not be approved.

3. If a level of carbon monoxide is determined that endangers the lives of the occupants, the state fire marshal shall take measures necessary to protect the occupants. This may include evacuation of the building or closing the facility. The facility shall obtain and have on file at the facility, documentation verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order. The facility shall be reinspected by the state fire marshal and determined safe before the occupants can return to the building or the facility can reopen.

(H) At least one (1) portable (five pound (5 lb)) 2A-10B:C fire extinguisher shall be required in all facilities. One (1) fire extinguisher shall be located in the kitchen. Additional fire extinguishers shall be placed throughout the facility and the travel distance shall be no greater than seventy-five feet (75') between fire extinguishers. Additional fire extinguishers may be required by the state fire marshal inspector depending on the floor plan arrangement of space and the number of levels used.

(I) Fire extinguishers shall be installed and maintained according to the instructions of the state fire marshal inspector and shall be inspected and approved annually by a fire extinguisher company. Documentation of the inspection and approval shall be on file at the facility and available for review by the state fire marshal inspector.

(J) Facilities using a commercial stove, deep fryer, or two (2) home type ranges placed side by side, or a home type range that produces a grease laden vapor shall be equipped with a range hood and extinguishing system with an automatic cutoff of the fuel supply and exhaust system in case of fire. The state fire marshal inspector shall inspect these systems to insure they are in good working condition and installed/maintained correctly. The state fire marshal inspector shall base this inspection on National Fire Protection Association, Chapter 96, Standard for Fire Protection of Commercial Cooking Operations. Exception: 1) Home type ranges separated by an eighteen inch (18") cabinet shall not be required to have an extinguishing system installed above them. 2) Facilities that cook on a home type range, and have a menu that does not include frying, or emitting a grease laden vapor, and has approval letter from the Department of Mental Health, does not need to install a fire extinguishing system above the range.

(K) The range hood fire extinguishment system shall be connected to the control panel of the fire alarm system. The activation of the range hood fire extinguishment system shall cause the fire alarm system to activate throughout the building.

(7) Heating, Ventilating, Air Conditioning, and Mechanical Equipment.

(A) Unvented fuel-fired room heaters, portable electric space heaters and floor furnaces shall not be permitted for use.

(B) No facility shall be allowed to heat the home with a wood burning stove, fireplace, or wood burning furnace located inside of the structure as a primary source of heat.

(C) All gas and electric heating equipment shall be equipped with thermostatic controls. All hot water heaters shall have a properly sized pressure relief valve and be properly vented by galvanized flue pipe and screws at every joint in the pipe or by material recommended by the manufacturer if they are gas fired. The drip leg pipe on the pressure relief valve shall extend to approximately six inches (6") above the floor and shall be copper or chlorinated polyvinyl chloride (CPVC) and cannot be reduced in size.

(D) Facilities with a water heater over two hundred thousand British thermal units (200,000 Btus) per hour input or larger, or that is heating with a boiler, shall have a valid permit from the Division of Fire Safety posted on the premises. A copy of the permit shall be kept on file at the Division of Fire Safety.

(E) All furnace rooms shall be properly vented. Furnace flue pipes shall be constructed of galvanized pipe or material recommended by the manufacturer. All galvanized pipe shall be secured by screws at every joint in the pipe.

(F) All joints in the gas supply pipe shall be located outside of the furnace cabinet housing.

(G) A gas shutoff valve shall be located next to all gas appliances, furnaces, hot water heaters.

(H) All furnaces shall be equipped with an electrical fused switch to protect the unit from electrical overloading and to disconnect the electrical supply.

(I) If a furnace or hot water heater is located inside a garage, they shall be at least eighteen inches (18") above the finished floor and enclosed inside a fire resistant room as described in subsection (4)(C) of this rule.

(J) All furnace rooms and rooms containing the hot water heater shall have adequate combustion air for the units. The vent size opening for the combustion air shall be measured at one (1) square inch per one thousand (1,000) Btus input if the combustion air is drawn from inside the structure and one (1) square inch per four thousand (4,000) Btus input if the air is drawn from outside of the structure. There shall be two (2) combustion air vent openings in each furnace room, one (1) located at the lower level and the other at the upper level.

(K) One (1) combustion air vent opening shall be permitted if the vent opening communicates directly to the outside of the structure. This opening shall be one (1) square inch per three thousand (3,000) Btus input of the total gas appliances located in this room. The gas appliances must have a clearance around them, of one inch (1") from the sides and back, and six inches (6") from the front of the unit.

(L) Air conditioning, heating, ventilating ductwork, and related equipment shall be installed in a safe manner and be in good operating condition as determined by the state fire marshal.

(M) Any furnace or air handling equipment that has air flow of two thousand (2,000) cubic feet per minute or more, shall have a fan shutdown switch that is interconnected with the fire alarm system.

(N) All elevators shall be inspected annually by a state licensed elevator inspector and shall obtain an annual state operating permit form from the Division of Fire Safety and post it as required.

(O) If any combustibles are stored in a furnace room, they must be enclosed in a metal container.

(8) Electrical Services.

(A) Electrical wiring shall be installed and maintained in good working order. If the state fire marshal considers the wiring to be unsafe for the occupants or if it is installed improperly, an inspection by a licensed electrician may be required prior to fire safety approval. The inspection by the licensed electrician shall be based on National Fire Protection Association, Chapter 70, *National Electrical Code*.

(B) No electrical extension cords will be allowed, unless approved in writing by the state fire marshal. Extension cords shall not be permanently affixed to the structure or replace permanent wiring. Exception: The use of Underwriters Laboratories, Inc. (UL) approved fused power surge strips is acceptable.

(9) Equivalency Concepts. Nothing in this rule is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety as alternatives required by this rule. These alternatives may be used only if technical documentation to demonstrate equivalency and the system, method, or device is submitted and approved by the Missouri Division of Fire Safety.

AUTHORITY: section 630.655, RSMo 2000. Original rule filed Sept. 5, 2003, effective April 30, 2004.*

**Original authority: 630.655, RSMo 1980.*

Title 9--DEPARTMENT OF MENTAL HEALTH
Division 45--Division of Mental Retardation and Developmental Disabilities
Chapter 5--Standards

9 CSR 45-5.150 Fire Safety for Residential Habilitation for 17 or More People

PURPOSE: This rule establishes fire safety requirements for residential habilitation homes serving seventeen (17) or more people funded through the Medicaid home and community-based waiver. The department delegates its authority for fire safety inspections under this rule to the Department of Public Safety, Division of Fire Safety.

(1) General Requirements.

(A) The staff shall conduct at least one (1) fire drill and one (1) disaster drill per month, with a minimum of two (2) drills, one (1) fire and one (1) disaster, conducted annually while the residents are sleeping. The staff shall maintain a written record at the facility of the date, type of drill, time required to evacuate the building, whether the evacuation was completed, notation of any problems evacuating, and number of occupants present during the drill.

(B) Unscheduled drills shall be held at the state fire marshal inspector's discretion.

(C) During severe weather, fire drills may be postponed.

(D) Each fire drill shall evacuate all persons from the building, or evacuate to an area of refuge and defend in place. Each fire drill shall be conducted as follows:

1. Drills shall simulate an actual fire condition;

2. Occupants and staff members shall not obtain clothing or personal effects after the alarm has sounded;

3. The occupants and staff members shall proceed to a predetermined point outside the building that is sufficiently remote to avoid fire danger, or to a predetermined point inside of the building; and

4. Occupants and staff members shall remain in place until a recall is issued or until they are dismissed.

5. Exception. If there is potential harm to residents during drills because a resident is medically fragile, the provider may arrange the drill to not involve the medically fragile. However, all residents who are medically fragile must participate in a drill at least once per year. This must be documented in the home.

(E) No window in a facility shall have bars or any other item placed over them in a stationary manner that would impede a rescue or evacuation.

(F) All flammable/combustible liquids, matches, toxic cleaning supplies, poisonous materials, or other hazardous items shall be stored so as to be inaccessible to the occupants if the occupants cannot handle the materials safely. No firearms and/or ammunition are allowed on the premises.

(G) Clothes dryers shall be vented and maintained properly.

(H) The house numbers shall be plainly visible from the street in case of emergency.

(I) Good housekeeping practices ensuring fire safety will be maintained daily.

(J) Stairways, walks, ramps, and porches shall be kept free of ice and snow.

(K) No fresh-cut Christmas trees shall be used unless they are treated with a flame resistant material. Documentation of the treatment shall be on file at the facility and available for review by the fire inspector.

(L) Candles and other devices that have an open flame shall not be used indoors. However, short-term supervised use of candles for special occasions or dinners is permitted.

(M) The facility shall notify the nearest fire department that the facility is in operation and have required signed documentation (fire department notification form) on file at the facility.

(N) Facilities served by a volunteer or membership fire department shall be a member in good standing with the fire department. A copy of the membership or receipt for membership shall be on file at the facility and available for review.

(O) The facility shall as soon as practical report any fire in the facility to the state fire marshal's office and the Department of Mental Health.

(P) The Division of Fire Safety may make additional requirements that provide adequate life safety protection if it is determined that the safety of the occupants is endangered. Every building or structure shall be constructed, arranged, equipped, maintained, and operated to avoid danger to the lives and safety of its occupants from fire, smoke, fumes, or resulting panic during the period of time necessary for escape from the building.

(Q) Prior to new construction, remodeling existing structures, and any structural alterations to existing facilities, the provider shall submit two (2) copies of plans and specifications prepared to scale for review and approval. One (1) copy shall be submitted to the Department of Mental Health's Licensure and Certification Unit; the second copy to the state fire marshal. The plans shall include a narrative indicating the utilization of each area of the facility. The architect or contractor shall certify in writing that the plans are in compliance with these certification rules. The provider shall not begin construction until the plans have been reviewed by the state fire marshal inspector. All plans for new construction, remodeling or additions shall comply with the Americans with Disabilities Act, Accessibility Guidelines.

(R) During the construction or remodeling process, the provider shall request a framing and wiring inspection and an inspection for the rough-in wiring for the fire alarm system by the Division of Fire Safety before the walls are enclosed. Failure to have these inspections conducted will result in an unapproved fire inspection from the Division of Fire Safety.

(S) The ceiling height in all facilities shall be a minimum of seven feet six inches (7'6"). An allowance will be made by the state fire marshal for some areas that are below seven feet six inches (7'6") for the installation of ductwork and plumbing. No more than forty percent (40%) of the ceiling in each room shall be below minimal height.

(T) Facilities shall comply with all local building codes, fire codes and ordinances.

(U) The latest edition of the National Fire Protection Association, Chapter 101, *Life Safety Code* shall prevail in the interpretation of these rules.

(V) Each certified residential facility shall be inspected at least once annually by a state fire marshal inspector. The department will initiate the fire safety inspection. If a facility is found out of compliance with the fire safety rules, the department will apply procedures for achieving compliance as promulgated under 9 CSR 45-5.060.

(2) Means of Egress Requirements.

(A) Each floor occupied in the home shall have not less than two (2) remotely located means of egress. Required means of egress shall not be a window. Each exit door shall not be less than thirty-six inches (36") wide.

(B) Wheelchair, walkers and other support equipment shall not be stored in corridors.

(C) No door in the path of travel to the means of egress shall be less than thirty-six inches (36") wide.

(D) No primary means of escape shall lead through a bathroom, storage room, furnace room, kitchen, garage, or any other room deemed hazardous by the state fire marshal inspector.

(E) All exit doors shall swing in the direction of egress travel and shall have door closures attached.

(F) Emergency lighting that has a battery backup shall be installed to light the path of egress. The location and number of emergency lights shall be determined by the state fire marshal inspector.

(G) Lighted exit signs with a battery backup shall be installed above exit door and as needed throughout the facility to direct the occupants to the exits.

(H) No dead bolt locks that require a key to unlock the lock from the inside shall be allowed.

(I) Overhead garage doors are not recognized as exit doorways.

(J) Mirrors shall not be placed on exit doors or adjacent to any exit in such a manner to confuse the direction of the exit. All exit doors shall be readily recognizable.

(K) All hallways shall have a clear width of at least thirty-six inches (36") wide and shall be kept free of all articles that might impede the occupants' evacuation from the home.

(L) Dead-end corridors/hallways shall not exceed twenty feet (20').

(M) Each wing or corridor of the facility shall be separated into fire compartment areas by fire doors and walls, having not less than a one (1)-hour rating. All fire doors shall be equipped with a door closure and may be held open at all times with an electrical magnetic switch that is interconnected to the fire alarm system.

(N) Facilities initially certified and areas initially approved on or after the effective date of this rule, shall meet the following requirements. All facilities that have a set of stairs, or use stairs as a fire escape shall be constructed as follows:

1. All stairs shall be at least thirty-six inches (36") wide. Fire escapes shall be constructed of noncombustible materials. Existing fire escapes shall be of sturdy construction and, at the discretion of the fire marshal, may be required to be load tested.

2. The maximum rise shall be eight inches (8").

3. The minimum tread shall be nine inches (9").

4. The maximum height between landings shall be twelve feet (12').

5. The minimum landing size shall be forty-four inches (44").

6. Handrails shall be placed on both sides and shall be of sturdy construction and positioned thirty-four to thirty-eight inches (34"-38") above the tread.

7. The outside diameter of the handrails shall be at least one and one-fourth inches (1 1/4") and no greater than two inches (2") in size.

8. Handrails shall provide a clearance of at least one and one-half inches (1 1/2") between the handrail and the wall or upright to which it is attached.

9. Spiral staircase or winder is not permitted.

(O) Every ramp used in the component of the means of egress shall be a minimum of forty-four inches (44") wide, and have landings at the top and bottom being the same width as the ramp. Ramp height shall comply with the following:

1. Ramps less than three inches (3") in height shall have a slope of one inch (1") per eight inches (8") of run.

2. Ramps with a height of three to six inches (3"-6") shall have a slope of one inch (1") per ten inches (10") of run.

3. Ramps with a height greater than six inches (6") shall have a slope of one inch (1") per twelve inches (12") of run.

(P) All ramps shall have a slip-resistant surface and shall be designed so that water or snow shall not accumulate on their surface.

(Q) All ramps over ten inches (10") in height shall have guardrails and handrails on both sides.

(3) Travel Distance to Exits.

(A) The travel distance between any room door intended as an exit access or an exit shall not exceed one hundred feet (100').

(B) The travel distance between any point in a room and an exit shall not exceed one hundred fifty feet (150').

(C) At the discretion of the state fire marshal inspector and in consideration of the presence of an automated sprinkler system, the distances in subsections (A) and (B) of this section may be extended by fifty feet (50').

(4) Protection.

(A) Vertical openings shall be protected so that no primary means of escape is exposed to an unprotected vertical opening. The vertical opening shall be considered protected if the opening is cut off and enclosed in a manner that provides a fire-resisting capability of not less than twenty (20) minutes and resists the passage of smoke. Any doors or openings shall have fire- and smoke-resisting capability equivalent to that of the enclosure and shall be self-closing or automatic closing.

(B) Interior stairways shall be closed with one (1)-hour fire barriers, with all openings equipped with smoke-actuated automatic-closing or self-closing doors having a fire resistance comparable to that required for the enclosure.

(C) All furnace rooms, rooms containing water heaters, boiler rooms, storage rooms, laundry rooms and all other rooms or areas deemed hazardous by the state fire marshal inspector shall be separated from the remainder of the building by construction having not less than a one (1)-hour fire resistance rating. All doors to these rooms shall have a self-closing device attached and shall have a minimum one (1)-hour fire rating.

(D) All doors to sleeping rooms shall have a fire resistance rating of twenty (20) minutes.

(E) All buildings shall be protected throughout by an approved, automatic sprinkler system installed in accordance with the National Fire Protection Association, Standards for Installation of Sprinkler Systems. Quick response or residential sprinkler heads shall be installed throughout the structure.

(F) The sprinkler system shall initiate the fire alarm system upon activation of water flow.

(G) Tamper switches shall be installed on the sprinkler system valves and shall transmit a supervisory signal to the fire alarm control panel.

(H) All facilities shall have the sprinkler system tested, inspected, and approved annually by a fire sprinkler company. A copy of the test report and approval of the system shall be kept on file at the facility for review by the state fire marshal inspector.

(5) Interior Finish.

(A) Interior wall and ceiling finishes throughout shall be a minimum Class B finish, as specified in the definition section of these fire safety rules. Textile material having a napped, tufted, looped, woven, non-woven, or similar surface shall not be applied to walls or ceilings. Foam plastic materials or other highly flammable or toxic materials shall not be used as an interior wall, ceiling, or floor finish.

(B) All wall studs, ceiling joists, and floor joists shall be covered with a minimum of Class B finish, and no exposed studs or joists shall be allowed.

(C) Hangings or draperies shall not be placed over exit doors or be located to conceal or obscure any exit. All other hangings and draperies shall be treated with a flame retardant material with verification to this effect on file for the fire inspector to review. Exception shall be made for small window valances. These exceptions shall be noted on the fire inspection survey.

(6) Detection, Alarms, Extinguishment.

(A) All facilities shall have a full coverage electrical fire alarm system. Pull stations shall be mounted at each exit door and at least one (1) horn/strobe shall be installed in a central location on each floor. Smoke detectors shall be installed in all sleeping rooms, throughout all corridors, in all living spaces, storage rooms and offices. Additional smoke detectors may be required by the state fire marshal as deemed necessary. Heat detectors shall be installed in all mechanical rooms, kitchens and throughout the attic. The battery backup control panel shall be Underwriters Laboratories, Inc. (UL) or Factory Mutual (F.M.) listed and installed on a dedicated circuit in the breaker box. The fire alarm system shall be installed and maintained in good working order and should be Underwriters Laboratories, Inc. (UL) or Factory Mutual (F.M.) listed. The fire system shall be installed and maintained per the National Fire Alarm Code (NFPA 72) and the *National Electrical Code*.

(B) All smoke detectors that are ten (10) years old or older shall be replaced with new smoke detectors of the same style. The new smoke detectors shall have the installation date written on the side of the detector for the state fire marshal to reference.

(C) All smoke detectors that are connected to a fire alarm system shall be replaced after ten (10) years of service, or recalibrated by the smoke detector's manufacturer. If the smoke detectors are recalibrated, temporary smoke detectors shall be installed so that the fire alarm system continues working properly and providing protection to the occupants while the original smoke detectors are being serviced.

(D) Any facility that has hearing-impaired occupants shall make adequate provisions so that the activation of any fire alarm system shall notify the occupants of the home. The state fire marshal inspector may require additional requirements for the hearing-impaired occupants to insure adequate notification.

(E) Occupant notification shall be provided automatically without delay. Pre-signal systems shall be prohibited.

(F) All facilities shall have the fire alarm system tested, inspected, and approved annually by a fire alarm company. A copy of the test report and approval of the system shall be kept on file at the facility for review by the state fire marshal inspector.

(G) Facilities using equipment or appliances, such as a gas stove or gas water heater, that pose a potential carbon monoxide risk, including facilities with attached garages, shall install a carbon monoxide detector(s). The detector(s) shall be installed according to the manufacturer's instructions. The state fire marshal inspector may require additional carbon monoxide detectors if the state fire marshal inspector determines that the safety of the occupants is endangered.

1. Carbon monoxide detectors shall be in good operating condition. If a battery-operated detector is not operational, the facility shall install a detector that is powered by the home's electrical system with a battery backup.

2. If an elevated carbon monoxide level is detected during a fire inspection, the facility shall have all gas-fired appliances checked by a heating and air conditioning company to identify the source of the carbon monoxide. Until the facility has documentation on file at the home verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order, and the facility is determined safe by the state fire marshal inspector, the fire inspection shall not be approved.

3. If a level of carbon monoxide is determined that endangers the lives of the occupants, the state fire marshal inspector shall take measures necessary to protect the occupants. This may include evacuation of the building or closing the facility. The facility shall obtain and have on file at the facility, documentation verifying that all gas-fired appliances were checked by a heating and air conditioning company and are in safe working order. The facility shall be reinspected by the fire inspector and determined safe before the occupants can return to the building or the facility can reopen.

(H) At least one (1) portable (five pound (5 lb)) 2A-10B:C fire extinguisher shall be required in all facilities. One (1) fire extinguisher shall be located in the kitchen. Additional fire extinguishers shall be placed throughout the facility and the travel distance shall be no greater than seventy-five feet (75') between fire extinguishers. Additional fire extinguishers may be required by the state fire marshal inspector depending on the floor plan arrangement of space and the number of levels used.

(I) Fire extinguishers shall be installed and maintained according to the instructions of the state fire marshal inspector and shall be inspected and approved annually by a fire extinguisher company. Documentation of the inspection and approval shall be on file at the facility and available for review by the state fire marshal inspector.

(J) Facilities using a commercial stove, deep fryer, or two (2) home type ranges placed side by side, or a home type range that produces a grease laden vapor shall be equipped with a range hood and extinguishing system with an automatic cutoff of the fuel supply and exhaust system in case of fire. The state fire marshal inspector shall inspect these systems to insure they are in good working condition and installed/maintained correctly. The state fire marshal inspector shall base this inspection on National Fire Protection Association, Chapter 96, Standard for Fire Protection of Commercial Cooking Operations.

(K) The range hood fire extinguishment system shall be connected to the control panel of the fire alarm system. The activation of the range hood fire extinguishment system shall cause the fire alarm system to activate throughout the building.

(7) Heating, Ventilating, Air Conditioning, and Mechanical Equipment.

(A) Unvented fuel-fired room heaters, portable electric space heaters and floor furnaces shall not be permitted for use.

(B) No facility shall be allowed to heat the home with a wood burning stove, fireplace, or wood burning furnace located inside of the structure as a primary source of heat.

(C) All gas and electric heating equipment shall be equipped with thermostatic controls. All hot water heaters shall have a properly sized pressure relief valve and be properly vented by galvanized flue pipe and screws at every joint in the pipe or by material recommended by the manufacturer if they are gas fired. The drip leg pipe on the pressure relief valve shall extend to approximately six inches (6") above the floor and shall be copper or chlorinated polyvinyl chloride (CPVC) and cannot be reduced in size.

(D) Facilities with a water heater over two hundred thousand British thermal units (200,000 Btus) per hour input or larger, or that is heating with a boiler, shall have a valid permit from the Division of Fire Safety posted on the premises. A copy of the permit shall be kept on file at the Division of Fire Safety.

(E) All furnace rooms shall be properly vented. Furnace flue pipes shall be constructed of galvanized pipe or material recommended by the manufacturer. All galvanized pipe shall be secured by screws at every joint in the pipe.

(F) All joints in the gas supply pipe shall be located outside of the furnace cabinet housing.

(G) A gas shutoff valve shall be located next to all gas appliances, furnaces, hot water heaters.

(H) All furnaces shall be equipped with an electrical fused switch to protect the unit from electrical overloading and to disconnect the electrical supply.

(I) If a furnace or hot water heater is located inside a garage, they shall be at least eighteen inches (18") above the finished floor and enclosed inside a fire resistant room as described in subsection (4)(C) of this rule.

(J) All furnace rooms and rooms containing the gas hot water heater shall have adequate combustion air for the units. The vent size opening for the combustion air shall be measured at one (1) square inch per one thousand (1,000) Btus input if the combustion air is drawn from inside the structure and one (1) square inch per four thousand (4,000) Btus input if the air is drawn from outside of the structure. There shall be two (2) combustion air vent openings in each furnace room, one (1) located at the lower level and the other at the upper level.

(K) One (1) combustion air vent opening shall be permitted if the vent opening communicates directly to the outside of the structure. This opening shall be one (1) square inch per three thousand (3,000) Btus input of the total gas appliances located in this room. The gas appliances must have a clearance around them, of one inch (1") from the sides and back, and six inches (6") from the front of the unit.

(L) Air conditioning, heating, ventilating ductwork, and related equipment shall be installed in a safe manner and be in good operating condition as determined by the state fire marshal inspector.

(M) Any furnace or air handling equipment that has airflow of two thousand (2,000) cubic feet per minute or more, shall have a fan shutdown switch that is interconnected with the fire alarm system.

(N) All elevators shall be inspected annually by a state licensed elevator inspector and shall obtain an annual state operating permit form from the Division of Fire Safety and post it as required.

(O) If any combustibles are stored in a furnace room, they must be enclosed in a metal container.

(8) Electrical Services.

(A) Electrical wiring shall be installed and maintained in good working order. If the state fire marshal considers the wiring to be unsafe for the occupants or if it is installed improperly, an inspection by a licensed electrician may be required prior to fire safety approval. The inspection by the licensed electrician shall be based on National Fire Protection Association, Chapter 70, *National Electrical Code*.

(B) No electrical extension cords will be allowed, unless approved in writing by the state fire marshal. Extension cords shall not be permanently affixed to the structure or replace permanent wiring. Exception: The use of UL approved fused power surge strips is acceptable.

(9) Equivalency Concepts. Nothing in this rule is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety as alternatives required by this rule. These alternatives may be used only if technical documentation to demonstrate equivalency and the system, method, or device is submitted and approved by the Missouri Division of Fire Safety.

AUTHORITY: section 630.655, RSMo 2000. Original rule filed Sept. 5, 2003, effective April 30, 2004.*

**Original authority: 630.655, RSMo 1980.*